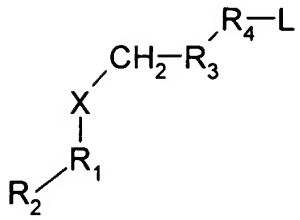
Amendments to the Claims

1. (Original) A compound of formula 1



1

wherein R_1-R_2 is a group recognized by AGT as a substrate;

X is oxygen or sulfur;

R_3 is an aromatic or a heteroaromatic group, or an optionally substituted unsaturated alkyl, cycloalkyl or heterocyclyl group with the double bond connected to CH_2;

R_4 is a linker; and

L is a label, a plurality of same or different labels, a bond connecting R_4 to R_1 forming a cyclic substrate, or a further group -R_3-CH_2-X-R_1-R_2.

2. (Original) The compound of formula 1 according to claim 1, wherein

R_1 is a heteroaromatic group containing 1 to 5 nitrogen atoms;

R_2 is hydrogen, alkyl of 1 to 10 carbon atoms, or a saccharide moiety;

X is oxygen;

R_3 is phenyl, an unsubstituted or substituted mono- or bicyclic heteroaryl group of 5 or 6 rings atoms comprising zero, one, two, three or four ring nitrogen atoms and zero or one oxygen atom and zero or one sulfur atom, with the proviso that at least one ring carbon atom is replaced by a nitrogen, oxygen or sulfur atom, 1-alkenyl, 1-alkinyl, 1-cyclohexenyl with 3 to 7 carbon atoms, or an optionally substituted unsaturated heterocyclyl group with 3 to 12 atoms and 1 to 5 heteroatoms selected from nitrogen, oxygen and sulfur, and a double bond in the position connecting the heterocyclyl group to methylene CH_2;

R_4 is an optionally substituted straight or branched chain alkylene group with 1 to 300 carbon atoms, wherein optionally

(a) one or more carbon atoms are replaced by oxygen

(b) one or more carbon atoms are replaced by nitrogen carrying a hydrogen atom, and the adjacent carbon atoms are substituted by oxo, representing an amide function –NH-CO-;

(c) one or more carbon atoms are replaced by oxygen, and the adjacent carbon atoms are substituted by oxo, representing an ester function –O-CO-;

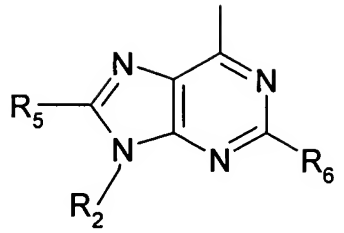
(d) the bond between two adjacent carbon atoms is a double or a triple bond, representing a function –CH=CH- or –CΞC-;

(e) one or more carbon atoms are replaced by a phenylene, a saturated or unsaturated cycloalkylene, a saturated or unsaturated bicycloalkylene, a bridging heteroaromatic or a bridging saturated or unsaturated heterocyclyl group; and/or

(f) two adjacent carbon atoms are replaced by a disulfide linkage -S-S-; and

L is one or a plurality of same or different labels selected from a spectroscopic probe, a magnetic probe, a contrast reagent, a molecule which is one part of a specific binding pair which is capable of specifically binding to a partner, a molecule that is suspected to interact with other biomolecules, a library of molecules that are suspected to interact with other biomolecules, a molecule which is capable of crosslinking to other molecules, a molecule which is capable of generating hydroxyl radicals upon exposure to H_2O_2 and ascorbate, a molecule which is capable of generating reactive radicals upon irradiation with light, a molecule covalently attached to a solid support, a nucleic acid or a derivative thereof capable of undergoing base-pairing with its complementary strand, a lipid or other hydrophobic molecule with membrane-inserting properties, a biomolecule with desirable enzymatic, chemical or physical properties, a bond connecting R_4 to R_1 forming a cyclic substrate, and a further group $-R_3-CH_2-X-R_1-R_2$.

3. (Original) The compound of formula 1 according to claim 1, wherein R_1-R_2 is a radical of formula 2



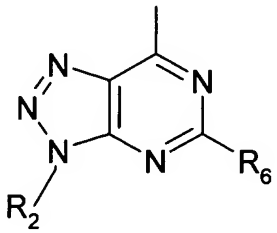
2

wherein R_2 is hydrogen, alkyl of 1 to 10 carbon atoms, or a saccharide moiety;
R_5 is hydrogen, halogen, trifluoromethyl, or hydroxy; and
R_6 is hydrogen, hydroxy or unsubstituted or substituted amino;
and tautomeric forms thereof.

4. (Original) The compound of formula 1 according to claim 3, wherein the saccharide moiety R_2 is a β-D-2'-deoxyribosyl, or a β-D-2'-deoxyribosyl being incorporated into a single stranded oligodeoxyribonucleotide having a length of 2 to 99 nucleotides, wherein the guanine derivative R_1 occupies any position within the oligonucleotide sequence.

5. (Original) The compound of formula 1 according to claim 3 wherein R_2 is hydrogen, R_5 is hydrogen, R_6 is unsubstituted amino, and X is oxygen.

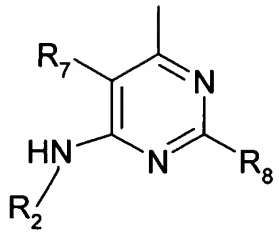
6. (Original) The compound of formula 1 according to claim 1, wherein R_1-R_2 is a radical of formula 3



3

wherein R_2 is hydrogen, alkyl of 1 to 10 carbon atoms, or a saccharide moiety; and
R_6 is hydrogen, hydroxy or unsubstituted or substituted amino;
and tautomeric forms thereof.

7. (Original) The compound of formula 1 according to claim 1, wherein R_1-R_2 is a radical of formula 4



4

wherein R_2 is hydrogen, alkyl of 1 to 10 carbon atoms, or a saccharide moiety; and R_7 and R_8 are both independently of one another hydrogen, halogen, lower alkyl with 1 to 4 carbon atoms, amino, or nitro.

8. (Original) The compound of formula 1 according to claim 1 wherein R_3 is triazolyl, tetrazolyl, isoxazolyl, thienyl, or isoxazolidinyl.

9. (Original) The compound of formula 1 according to claim 8 wherein R_3 is triazolyl.

10. (Original) The compound of formula 1 according to claim 8 wherein R_3 is tetrazolyl.

11. (Original) The compound of formula 1 according to claim 8 wherein R_3 is isoxazolyl.

12. (Original) The compound of formula 1 according to claim 8 wherein R_3 is thienyl.

13. (Original) The compound of formula 1 according to claim 8 wherein R_3 is isoxazolidinyl.

14. (Original) The compound of formula 1 according to claim 1 wherein R_3 is 1-alkynyl.

15. (Original) The compound of formula 1 according to claim 1 wherein R_4 is a straight chain alkylene group with 2 to 25 carbon atoms, a straight chain polyethylene glycol group with 4 to 100 ethyleneoxy units, or a straight chain alkylene group with 2 to 25 carbon atoms wherein two or more carbon atoms are replaced by an amide function –NH-CO, optionally attached to the group R_3 by a –CH=CH- or –C≡C- group.

16. (Original) The compound of formula 1 according to claim 1 wherein R_4 is a branched chain alkylene group comprising a polyethylene glycol group of 3 to 6 ethylene glycol units and alkylene groups wherein carbon atoms are replaced by amide bonds, and further carrying substituted amino and hydroxy functions.

17. (Original) The compound of formula 1 according to claim 1 wherein R_4 is a branched chain alkylene group having a dendritic structures wherein amine, carboxamide and ether functions replace carbon atoms of the alkylene group.

18. (Original) The compound of formula 1 according to claim 3 wherein R_3 is phenylene and L is a further group $-R_3-CH_2-X-R_1-R_2$.

19. (Currently amended) The compound of formula 1 according to claim 3 ~~or 18~~ wherein R_3 is 1,4-phenylene and linker R_4 is a straight chain alkylene group of 10 to 40 carbon atoms wherein 3 to 12 carbon atoms are replaced by oxygen, one or two carbon atoms are replaced by 1,4-triazolidene units, and optionally one carbon atom is replaced by a 1,4-phenylene unit.

20. (Currently amended) The compound of formula 1 according to claim 3 ~~or 18~~ wherein R_3 is 1,4-phenylene and linker R_4 is a straight chain alkylene group of 10 to 40 carbon atoms optionally substituted by oxo wherein 3 to 12 carbon atoms are replaced by oxygen and one or two carbon atoms are replaced by nitrogen.

21. (Currently amended) The compound of formula 1 according to claim 3 ~~or 18~~ wherein R_3 is 1,4-phenylene and linker R_4 is a straight chain alkylene group of 6 to 40 carbon atoms wherein 2 to 12 carbon atoms are replaced by oxygen and one or two bonds between two adjacent carbon atoms is a double bond.

22. (Original) The compound of formula 1 according to claim 3 wherein R_3 is phenylene, R_6 is amino and L is a bond connecting R_4 to R_6.

23. (Original) The compound of formula 1 according to claim 3 wherein R_3 is phenylene and L is methotrexate.

24. (Original) The compound of formula 1 according to claim 3 wherein R_3 is phenylene and L is a plurality of same or different labels.

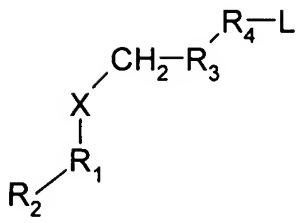
25. (Original) The compound of formula 1 according to claim 24 wherein R_3 is phenylene and L is two different labels.

26. (Currently amended) A method for the synthesis of a compound of the formula 1 according to ~~any one of claims 1 to 25~~ claim 1.

27. (Original) A method according to claim 26, characterized in that a compound of the formula R_2-R_1-X-CH_2-R_3-R_4 wherein R_4 is a polyfunctional residue having two or more reactive nucleophilic or electrophilic groups is reacted with a suitable reagent introducing one or more labels L.

28. (Original) A method according to claim 27 wherein the reactive nucleophilic or electrophilic groups are orthogonally protected functional groups, and conditions are chosen such as to allow separate deprotection so that each released functionality in turn can be further chemically manipulated either to attach a label to it or for the introduction of further extension of linker R_4.

29. (Original) A compound of the formula 1



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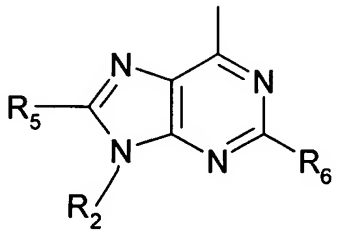
wherein R_1-R_2 is a radical of formula 2



2

wherein R_2 is hydrogen, R_5 is hydrogen and R_6 is unsubstituted amino;

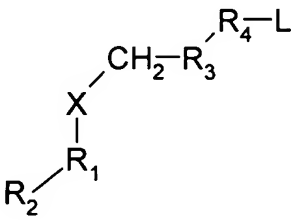
X is oxygen;

R_3 is triazolyl, tetrazolyl, isoxazolyl, thienyl, isoxazolidinyl or alkynyl;

R_4 is a linker; and

L is amino or azido.

30. (Original) A compound of the formula 1



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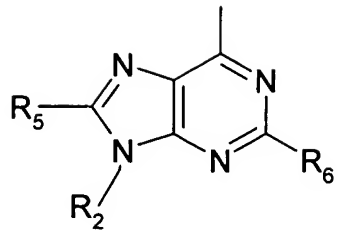
wherein R_1-R_2 is a radical of formula 2



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wherein R_2 is hydrogen, R_5 is hydrogen and R_6 is unsubstituted amino;

X is oxygen;

R_3 is 1,4-phenylene;

R_4 is a straight chain alkylene group of 10 to 40 carbon atoms optionally substituted by oxo wherein up to 12 carbon atoms are replaced by oxygen and zero, one or two carbon atoms are replaced by nitrogen; and

L is amino or azido.

31. (Currently amended) A method for detecting and manipulating a protein of interest, characterized in that the protein of interest incorporated into a AGT fusion protein is contacted with an AGT substrates carrying a label, and the AGT fusion protein is detected and optionally further manipulated using the label in a system designed for recognising or handling the label, and wherein the AGT substrate carrying the label is a compound of formula 1 according to ~~any one of claims 1 to 25~~ claim 1.